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USSR HAS UNTAPPED RESOURCES FOR CONSTRUCTION MATERIALS INDUSTRY

CLAY GYPSUM ABUNDANT IN TURKMEN DESERT AREA -- Promyshlennost' Stroitel'nykh Materialov, 29 Sep 50

Many parts of the Turkmen SSR, especially areas of the Kara Kumy desert, have considerable deposits of clay gypsum or, as it is called in Central Asia, gazha or ganch. This material consists of gypsum and loess with admixtures. Clay-gypsum deposits are found near ancient river terraces and dry lakes of the Kara Kumy desert. The layers are 3 to 9 meters thick and the deposits cover areas of approximately 25 to 30 kilometers.

In regard to its technical properties, clay gypsum is not inferior to gypsum. A few minor enterprises of local industry in Turkmenia produce a construction material from clay gypsum by firing it in pits at a moderate temperature. The firing is done over a period of 2 hours at a temperature of 130-150 degrees. After this, the material is easily pulverized and screened. Even with this primitive production method, the binding material is entirely satisfactory. It has a compression strength of over 100 kilograms per square centimeter and a tensile strength of 12 to 15 kilograms per square centimeter. As a result of laboratory research, it has been possible to improve the technical properties of clay gypsum, increasing the compression strength to 300 kilograms per square centimeter and the tensile strength to 25-30 kilograms per square centimeter. By adding a bark extract or Central Asian shrub to clay-gypsum product, it is made water-resistant. These technical properties make it possible to use clay gypsum in construction as a good substitute for brick, timber, and a number of binding materials. Clay gypsum can be used in the manufacture of wall blocks for small houses, face tiles, dry plaster, various architectural parts, and finally as a mortar. Clay-gypsum products can replace up to 60 percent of wooden parts in construction.

Clay-gypsum construction parts are made by the casting method. For extra strength, they are reinforced with laths or reeds. Various mineral or organic materials, such as sand, slag, shavings, reeds, etc, are added to the product for economical reasons.

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Clay gypsum is one of the oldest binding materials known in Central Asia. It was used by Turkmens as far back as the 10th century. An arched bridge built across the Murgab River in the 11th century with the use of clay-gypsum has survived for 9 centuries and is proof of the high qualities of this local construction material.

This material is of special importance at present, when extensive construction work has begun in Central Asia. Construction of the Main Turkmen Canal and of new cities and kolkhoz villages requires huge quantities of local building materials. The canal is to run across the Ust'-Urt Plateau and the Kara Kumy desert, where the clay-gypsum deposits are located. Clay gypsum is easily quarried and processed, a fact which makes it an inexpensive material.

The Moscow Institute "Giprogips" (State Institute for Planning Enterprises of the Gypsum Industry) has been authorized to investigate the possibilities of utilizing clay gypsum in the construction of the Main Turkmen Canal. Plans are to be worked out in the near future. A GOST plan and technical specifications for clay gypsum will also be drawn up.

FAIL TO EXPLOIT CRIMEAN RESOURCES - Promyshlennost' Stroitel'nykh Materialov, 29 Sep 50

The Crimean Oblast has rich deposits of minerals for the production of good, inexpensive construction materials such as bricks, tiles, wall stone, and all kinds of facing materials. The oblast has over 130 deposits of shell limestone, about 30 deposits of marble like limestone of various colors, numerous deposits of marl, gravel, and gypsum stone, and an unlimited quantity of high-grade clay, suitable not only for brick and tile production but also for hollow ceramic products used as facing material. However, all of these mineral resources are being very poorly utilized. Stone quarrying is organized only in one third of the entire area of limestone deposits and it is done by small crews of industrial cooperatives, construction organizations, sovkhozes, and small plants of the Crimean Oblast Administration of Construction Materials Industry. In most cases quarrying is done by manual labor. This results in low labor productivity and high production costs. For example, at the Simferskiy quarry of the Simferopol' Stekol Industrial Combine, one stone block costs about 2 rubles, whereas the cost of a similar block at the mechanized Ukrainian plant is 60-70 kopeks. Large deposits of limestone are being exploited without proper technical supervision and are therefore in an extremely neglected condition. For example, in the region of Perekop where the Ministry of Chemical Industry is in charge of stone quarrying, valuable deposits of limestone are in such poor condition that it is impossible to exploit them any further.

The same situation exists in sand quarries. There are only five small sand quarries operating in the entire oblast. They are not mechanized and are scattered over various organizations. As a result, Simferopol', Kerch, and cities and villages of the southern Crimean coast have a shortage of sand, which should actually be a cheap and plentiful building material. The sand which construction organizations of Simferopol' haul from a distance of 20-35 kilometers contains up to 40 percent clay and other harmful ingredients. Due to transport costs and the low quality of the sand, its cost is increased up to 10 percent.

The oblast also has large reserves of marble-like limestone, which is well-known to architects and builders. There was a time when this remarkably decorative facing material was in great demand both in the oblast and other parts of the country. However, local organizations and the Ministry of Construction Materials Industry RSFSR have apparently forgotten all about it. The limestone-quarrying enterprises destroyed during the war have not been restored and new ones are not being organized.

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An entirely forgotten branch of industry in the Crimean Oblast is the production of steps, tiles, etc, of diorite. Before the war, diorite of Alminskiy Rayon was shown at international exhibitions as one of the types of high-grade building materials.

The large increase in industrial and civilian construction in the Crimean Oblast has resulted in an increasing demand for cement. Thousands of tons of cement are shipped to the Crimea from places hundreds of kilometers distant. It would be possible, however, to organize cement production at two of the marl deposits situated near the railroad line and thereby provide a sufficient supply of cement for the oblast.

There is also a shortage of gypsum for construction purposes. The new gypsum plant provides only about 30 percent of the required gypsum. Serious attention should be given to lake gypsum which is found in Saksiy Rayon. It would be possible to obtain many thousands of tons of high-grade gypsum at this location without any capital investments.

Scientific institutes should participate more actively in the development of the Crimean construction materials industry. There are a number of scientific research institutes in the Crimea, including the Affiliate of the Academy of Sciences USSR and the Crimean Scientific Research Laboratory of Construction Materials Industry under the Administration of Construction Materials Industry. However, the work of these institutes is not coordinated.

The Ministry of Construction Materials Industry RSFSR must give serious consideration to the utilization of Crimean mineral resources and give the necessary aid to the oblast administration.

CENTRAL QUARRIES NEED REORGANIZATION -- Vechernyaya Moskva, 15 Aug 50

It is necessary to expand the quarrying and processing of nonmetallic minerals. This branch of industry has been greatly neglected. The principal quarries of Moscow Oblast and adjoining oblasts should be subordinated to the Ministry of Construction Materials Industry USSR, reinstating the "Rossnerud" Trust which existed before the war.

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